

# The Pigmy Hog *Sus salvanius* (Hodgson) in Northern Assam

BY

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*(With a plate)*

## INTRODUCTION

The Pigmy Hog *Sus salvanius* was first recorded in 1847 and was described by B. H. Hodgson in his paper "On a new form of Hog Kind or Suidae" in the May edition of the *Journal of the Asiatic Field Society, Bengal*. Hodgson stated that it must seem almost incredible that so tiny an animal should effectually resist men, but considered that the Pigmy Hog entirely escaped all notice due to its being exclusively confined to the deep recesses of primeval forest.

The scarcity of records during the intervening years, and the fact that the species still remains virtually unstudied in the wild state has led some authors to record that the pigmy hog was now possibly extinct. However, Simon (1970) states in the Survival Service Red Data Book that the meagre evidence available suggests that the pigmy hog survives in parts of Assam, and may well be distributed in the Nepalese terai.

The purpose of this paper is to record all the data collected during my visit to Assam, in May, 1971, and in particular the observations made on the fourteen adults and the four young being kept in captivity in the Mangaldai sub-division, of Darrang division, Assam.

## CAPTIVE STOCK

At the time of my visit to Assam there were fourteen adult specimens of pigmy hog comprising three males and eleven females, and four young (one male, three females) kept in three separate locations in the Mangaldai sub-division of Assam. One male, six females, and the four young were kept at the Attareekhat Tea Estate; one male, three females at the Paneery Tea Estate; and one male, two females at the Budlapara Tea Estate.

The first two groups came under the ownership of Mr. Dick Graves but are now under the trusteeship of the newly formed Assam Valley

Wildlife Scheme of which India's Prime Minister, Mrs. Indira Gandhi, is the patron. Regrettably, I was unable to observe the three specimens in the third group at Budlapara although the tea company concerned were participants in the Assam Valley Wildlife Scheme.

Some seventeen specimens were caught in the thatchlands between the Rajagarh Forest Reserve and the Attareekhat Tea Estate on the Bhutan/Assam Border. The reason for the dramatic reappearance and subsequent sightings of this rare and endangered species, was due to an extensive fire amongst the thatch during the twenty-four-hour period 21-22nd March 1971 which is reputed to have covered approximately fifty square miles.

The nearby villages immediately started to catch the pigmy hog to sell them for the pot, and it was then that Mr. Graves intervened and gave the villagers a considerably large sum of money if the specimens were brought to him alive.

This timely intervention was prompted by both Mr. Richard Magor, Director of the Attareekhat Tea Company, and founder of the Assam Valley Wildlife Scheme, who in January 1971 told the staff to make an all-out effort to try and secure some specimens of pigmy hog. Also by Mr. John Tessier-Yandell, Secretary of the Assam Valley Wildlife Scheme, who since 1959 had done a great deal of detective work with regard to the whereabouts of the pigmy hog in Assam.

The first pair arrived on 31st March, two females on 3rd April, and the remainder were brought in, at intervals during April. Out of the seventeen brought in, three specimens, one male and two females, died. It is not known what has happened to the skeleton and skin of the male specimen.

It is interesting to note that Hodgson (1847: 423) refers to the annual clearance of the undergrowth of the forest by fire occasionally revealing the pigmy hogs, and the herd is thus assailed at advantage. The pigmy hogs were at first all accommodated at the Attareekhat Tea Estate, but on 5th May four specimens were sent to Paneery under the supervision of Mr. Robin Wrangham, as it was quite rightly considered to be essential to split up the hogs into at least two separate groups within the species' range in order to minimise the consequences of any virulent infection.

#### GENERAL DESCRIPTION

*Adult*—The colour of the pigmy hog is blackish brown shaded vaguely with rusty red, the hairs of the specimens examined were quite sparse in comparison to that of a Wild Boar or a Peccary, and the hairs

do not exceed  $2\frac{1}{4}$ " in length, the longest of these being at the nape of the neck. Both the tail and ears are short and without hair, and the jaws are shorter than those of the common Hog. The females have only three pairs of teats, half the number possessed by other pigs. Blandford (1888) and Lydekker (1900) state that the young are dark brown, with longitudinal rufous bands above and on the sides, white beneath. The young born at Attareekhat and seen by me at 23 days old had greyish hairs about the snout, forehead, crown of head and ears. The dorsal hairs were blackish brown tinged underneath with rufous. The hairs under the throat and on the stomach were predominantly rufous, the skin having a grey pigmentation. Only on the closest examination could the rufous stripes be observed; the almost absence of any longitudinal bands or stripes at an earlier stage of development was verified by Graves and Singh (*in verbis* 1971) who saw the young soon after birth. The measurements of one at 25 days old can be seen in Table 2. It is doubted whether the stripes of the young pigmy hog could be seen without handling the animal, which is in complete contrast to the obvious striped markings of the young in the Wild Boar of both India and Africa. The young of the New World peccaries do not have any striped markings.

#### DIMENSIONS

There is little information recorded on the measurements and weights of the Pigmy Hog, as can be seen from the following data:—

TABLE 1

DIMENSIONS OF *Sus salvanius* AS QUOTED IN LITERATURE

Specimen	Muzzle to base of tail	Shoulder height	Weight	Reference
Sub-adult ♂ ...	18"-20"	8-10"	7-10 lbs.	Hodgson (1847: 423)
Adult ♂ ...	26"	12"	—	Lydekker (1900: 267)

The information given by Blandford (1888 : 563) accredited to Hodgson, of an old male weighing 17 lbs. cannot be traced in the literature cited, and the weight is considered to be highly unlikely.

As it was important for me to examine the majority of the animals in captivity in order to assess their general condition I took this invaluable opportunity in taking the dimensions of eleven of the specimens, when I considered that undue stress would not be caused to them.



Above: Pigmy Hog *Sus salvanius* ♀ young 25 days old. Assam, May 1971.

Below: Pigmy Hog *Sus salvanius*. Assam, May 1971.

(Photos: Jeremy J. C. Mallinson)



TABLE 2

DIMENSIONS OF *Sus salvanicus* AT ATTAREEKHAT TEA ESTATE TAKEN ON 23RD MAY 1971

Sex	Muzzle to base of tail	Tail	Height of shoulder	Height of ear	Weight	Condition	Pen No.	Code Ref.
ADULT male ...	28"	1 $\frac{1}{4}$ "	9"	1 $\frac{3}{4}$ "	—	Good	I	M.1
ADULT female	23 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	8 $\frac{1}{2}$ "	1 $\frac{3}{4}$ "	—	Good	I	F.1
ADULT female ...	23"	1 $\frac{1}{4}$ "	8 $\frac{1}{2}$ "	1 $\frac{1}{2}$ "	—	Good	I	F.2
ADULT female ...	23 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	8 $\frac{1}{2}$ "	1 $\frac{3}{4}$ "	—	Good	I	F.3
ADULT female ...	22"	1 $\frac{1}{4}$ "	8"	1 $\frac{3}{4}$ "	—	Poor left eye missing, very thin	II	F.4
ADULT female ...	24 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	8 $\frac{1}{4}$ "	1 $\frac{3}{4}$ "	—	Left hind foot amputated skin flaking	III	F.5
ADULT female <sup>1</sup> ...	—	—	—	—	—	good	IV	F.6
Infant. f. at 25 days <sup>2</sup>	14 $\frac{1}{4}$ "	$\frac{1}{2}$ "	2 $\frac{1}{4}$ "	$\frac{3}{4}$ "	—	Good	IV	F.6 inf.

1 Sow gave birth to 4 young on 28th April, 1971.

2 The remaining 3 young were not measured.

TABLE 3

DIMENSIONS OF *Sus salvanicus* AT PANEERY TEA ESTATE TAKEN ON 23RD MAY 1971

Sex	Muzzle to base of tail	Tail	Height of shoulder	Height of ear	Weight	Condition	Pen No.	Code Ref.
SUB-ADULT male ...	19 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	8 $\frac{1}{2}$ "	1 $\frac{1}{2}$ "	3.700 kgs	Good	I	M.2
ADULT female ...	21 $\frac{3}{4}$ "	1 $\frac{1}{4}$ "	8 $\frac{1}{2}$ "	1 $\frac{3}{4}$ "	3.675 kgs	Poor aborted apr. left hind foot removed.	I	F.7
SUB-ADULT female ...	19 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	8"	1 $\frac{3}{4}$ "	3.400 kgs	Good	I	F.8
SUB-ADULT	19"	1 $\frac{1}{4}$ "	7 $\frac{3}{4}$ "	1 $\frac{1}{2}$ "	2.700 kgs	Good left hind foot left toe removed.	I	F.9

It can be seen in Tables 2 and 3 that the muzzle-base of tail measurement of the adult male is 28", sub-adult male 19½", and in six adult females the measurements range from 21¾"-24½". The shoulder height of the adult male is 9", sub-adult male 8½", and the six adult female measurements range from 8-8½". The measurements between the teats taken longitudinally in adult females was found to range from 1¾"-2".

#### BEHAVIOUR

Hodgson (1847) states that the pigmy hog seems to have the disposition of the peccary (*Tayassu tajacu*) as well as the resemblance. The herds are not large, consisting of five or six, to fifteen or twenty. The males fearlessly attack intruders, charging and cutting the naked legs of their human or other attackers with a speed that baffles the eyesight, and a spirit which their straight sharp lanianaries renders really perplexing if not dangerous.

Hamilton (1921), describing a shooting expedition with the Maharajah of Cooch Bihar in 1891, states that they go about in droves of about fifty, and move through the grass with such incredible rapidity that the eye is unable to follow them. The elephants, oddly enough, are scared to death by the pigmy hogs, for the little creatures have tusks as sharp as razors, and gash the elephants' feet with them as they rush past them.

The ten pigmy hogs handled by me on 23rd May 1971 were surprisingly non-aggressive, and from all accounts when the specimens were caught, no real aggression was encountered. When disturbed from their thatch bedding the pigmy hogs have the ability to move like lightning, keeping close together, the females usually following the males, before reaching a further refuge where they would pile on top of each other. Just prior to giving birth the females are said to make a nest within the thatch, this behavioural pattern was observed by Graves (1971) prior to the parturition recorded at Attareekhat Tea Estate.

The literature states that the pigmy hog is nocturnal, however, from my personal observations on the two groups at Attareekhat and Paneery, I saw nothing to support this attribute. The pigmy hog were the most active just after dawn and some two hours before sunset, but on some occasions were seen walking about in their enclosures at Paneery in the middle of the day in the direct sunshine. It is interesting to note that some pigmy hogs were photographed in the Manas sanctuary during the daytime (Jenkins 1971).

#### BREEDING

In the literature consulted there are no references to the pigmy hog

being observed with young in the wild state. However, it is considered, as with so many animals, that parturition will take place when environmental conditions are the most favourable, and in all probability breeding seasons are adhered to.

Pigmy hogs were born during the four years 1883, 1884, 1885 and 1886 at the London Zoo (Z.S.L.) but regrettably the only reference to the time of the year that parturition took place was 23rd May 1883. However, it is interesting to note that the 4 young born at Attareekhath Tea Estate, which were conceived in the wild state, were born on 28th April 1971 adhering to a similar time of the year as the former.

Hodgson (1847) states that the grown male perhaps pairs off for a short period in the breeding season, of which there are said to be two in the year, and the litter to consist usually of but 3 or 4 young ones, similar to the number born at Attareekhath.

The records of the Zoological Society of London show that the number of young per litter ranges from 1-4. The South American Collared Peccary in the Jersey Wildlife Preservation Trust's collection, normally produce two litters a year consisting of from one to four young with a gestation period of 110-120 days.

#### DIET

Hodgson (1847) states that their food is chiefly roots and bulbs, but they also eat eggs, young birds, insects, and reptiles, having a good deal of the omnivorous propensity proper to the whole family (Suidae).

When the pigmy hogs were first taken into captivity, they were fed mainly on rice and vegetable matter, the rice was very much their favourite food. However, in order to provide the specimens with nutritionally adequate and balanced rations, the following foodstuffs were advised.

Papaya — Pumpkin — Tomato — Potato — Egg Plant — Marrow — Cabbage — Corn on the Cob — Banana — Matikali (high in protein) — Pea Nuts — Raw Egg with shell — Unpolished Rice — Skimmed Milk — Insects — Reptiles — Young birds — 'Becadex' (multi-vit preparation including Vits. A, D<sub>2</sub>, B<sub>1</sub>, B<sub>12</sub> and C) 2.5 ml. =  $\frac{1}{2}$  teaspoon per specimen daily.

Fresh turf with plenty of soil left around roots, and a few branches (to allow the animals to gnaw the bark) to be placed in the outside areas at regular intervals.

It was soon observed that corn on the cob was one of their favourite



foods, for they would carry the cob about the paddock nibbling at them until only the husk remained.

#### HABITAT

The jungle and thatchlands of the Himalayan foothills. The majority of the thatch grows up to approximately 12 ft. height during the monsoons from June to October, but then starts to wither down to approximately 5 ft. during January to March, unless the thatch had been fired. The Assamese names for the two chief species of thatch are 'Boranganni kher' and 'Nulgahuri', the latter is the local name given to the pigmy hog. It is considered by the locals, that when the thatch becomes too water-logged during the height of the monsoons, the pigmy hog go into the forested areas of the foothills.

On 23rd May I travelled by jeep through the thatchlands in the Mangaldai sub-division to the north of Attareekhat, and with the permission of the local forest officer, to the Rajagarh Forest Reserve, to study the typical habitat of the pigmy hog.

On 25th May 1971 I flew in a single engine Cessna 180 over the foothills to the east of the Mangaldai sub-division, in the area to the north of Pertabgurbh by the Bhutan and N.E.F.A. borders. On the whole the habitat was continuous, although in some areas small patches of forest and thatch had been cleared by Nepalese settlers who are in increasing numbers coming into this area of northern Assam and upsetting the ecology of the pigmy hog's environment.

#### POSSIBLE DISTRIBUTION

The Himalayan foothills in the west start from the Naini Tal district in the State of Uttar Pradesh and continue eastwards along the northern borders into Bihar State and almost up to the West Bengal border, a distance of approximately 600 miles. This habitat is then broken by a stretch of approximately 150 miles of tea estates in West Bengal, before restarting in the valley of the Manas River, north-west Assam and extending eastwards along the foothills bordering Bhutan and N.E.F.A. up to Lakhimpur district in the north-east border of Assam, a distance of approximately 300 miles. The width of this foothill belt being approximately 5-15 miles.

During March 1971 Jenkins *et al.* photographed what they took to be pigmy hogs in the Manas Sanctuary, north-west Assam (the photographs have since been confirmed as of this species). During March-April, further to the east of the Manas Sanctuary, approximately twenty specimens came to light after the extensive fire in the thatchlands in the Mangaldai sub-division.

## SUMMARY AND RECOMMENDATIONS

During my mission to Assam valuable information was gathered to supplement the fragmentary data about this, once considered to be possibly extinct species. The description of the markings of the young, and the diurnal behaviour of the adults, are contrary to the accepted published data about this species. The comparative measurements taken of the eleven specimens examined, provides us with a clearer picture as to the pigmy hog's dimensions.

It is generally considered that the pigmy hog is still comparatively numerous in the Himalayan foothill area between Bhutan and North West Assam; and that if the habitat was to remain unmolested, the pigmy hog would probably be able to survive in this part of its range. Regrettably, however, due to the great increase of Nepalese settlement in this area, patches of forest and thatch are being cleared, thus upsetting the ecology of the pigmy hog's environment, and undoubtedly, if the specimens are seen by the settlers they are hunted for the pot.

It is estimated by the numerous people I spoke to, that if the present rate of infiltration continues, the majority of the habitat will have disappeared within the next five to ten years.

In compliance with the I.U.C.N. Survival Service Commission's policy on the capture of Rare or Endangered Animal species, these units should serve the following objectives :—

- (a) To multiply the species in order to provide a reservoir of animals for stocking scientifically managed sites and reserve areas where sufficient protection can be afforded.
- (b) To permit study of the species' biology under controlled conditions.

It is recommended that, as the pigmy hog's habitat is threatened by an increasingly intensive human development, steps should be taken when the vegetation is at its lowest, to do a comprehensive evaluation of the habitat to determine what remains of it, and to capture some further specimens. Sufficient animals should be caught in order to strengthen the viability of the two existing captive populations within the species' range; and to provide the opportunity to translocate some to a scientifically managed site, such as at the Jersey Wildlife Preservation Trust. By this means help to ensure the pigmy hog's perpetuation and so prevent the pigmy hog from becoming extinct, before the opportunity is lost forever.

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